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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/798,876 | 03/11/2004 | Arthur E. Uber III | VI/02-002.PCT.US.C | 4883 |

21140 7590 05/29/2007
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| EXAMINER |
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PERREIRA, MELISSA JEAN

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| ART UNIT | PAPER NUMBER |
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1618

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| MAIL DATE | DELIVERY MODE |
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05/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/798,876 | Applicant(s) UBER ET AL. | |
| | Examiner Melissa Perreira | Art Unit 1618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-143 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-143 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-41 and 104-143 are drawn to a system for creating bubbles, classified in class 424, subclass 9.52.
 - II. Claims 42-85 are drawn to a system for creating bubbles, classified in class 424, subclass 9.52.
 - III. Claims 86-96 are drawn to a bubble generating apparatus, classified in class 424, subclass 9.52.
 - IV. Claims 97-102 are drawn to a bubble generator, classified in class 424, subclass 9.52.
 - V. Claims 103-111 are drawn to a bubble generator, classified in class 424, subclass 9.52.
 - VI. Claims 112-115 are drawn to a bubble generator, classified in class 424, subclass 9.52.
 - VII. Claims 116-118 are drawn to a bubble generator, classified in class 424, subclass 9.52.
 - VIII. Claims 191-121 are drawn to a bubble generator, classified in class 424, subclass 9.52.
 - IX. Claims 122-126 are drawn to a bubble generator, classified in class 424, subclass 9.52.

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- X. Claims 127-129 are drawn to a bubble generator, classified in class 424, subclass 9.52.
- XI. Claims 130-133 are drawn to a bubble generator, classified in class 424, subclass 9.52.
- XII. Claims 134-139 are drawn to a method of generating a medium of bubbles, classified in class 424, subclass 9.52.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are systems for creating bubbles. The system of group II contains an additional reservoir for accommodating a second liquid and a gas and a housing having at least one cell chamber while the system of group I does not contain these components.

3. Inventions I/II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are a bubble generating apparatus and systems for creating bubbles. The bubble generating apparatus of group III contains a medium delivery system for the use of a patient, backflow prevention means and disposable/reusable portion to preclude flow of contaminants while the systems for creating bubbles of groups I and II do not. The bubble generating apparatus of group III does not contain

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the heater or a transmitter for transmitting ultrasonic energy that is included in the systems for creating bubbles of groups I and II. The inventions of groups I, II and III do not contain the same components.

4. Inventions I/II/III and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions the bubble generator of group IV does not contain all of the components of the systems for creating bubbles of groups I and II or the bubble generator of group III. For example, the bubble generator of group IV does not contain a reservoir, fluid verification device, controller, spinning discs, heater or a transmitter for transmitting ultrasonic energy, backflow prevention means and disposable/reusable portion to preclude flow of contaminants, etc.

5. Inventions I/II/III and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions the bubble generator of group V does not contain all of the components of the systems for creating bubbles of groups I and II or the bubble generator of group III. For example, the bubble generator of group V does not contain a fluid verification device, heater, gas inlet, nozzle, backflow prevention means and disposable/reusable portion to preclude flow of contaminants, etc.

6. Inventions I/II/III and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs,

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modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions the bubble generator of group VI does not contain all of the components of the systems for creating bubbles of groups I and II or the bubble generator of group III. For example, the bubble generator of group VI does not contain a controller, fluid verification device, spinning discs, heater, nozzle, transmitter for transmitting ultrasonic energy, backflow prevention means and disposable/reusable portion to preclude flow of contaminants, etc.

7. Inventions I/II/III and VII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions the bubble generator of group VII does not contain all of the components of the systems for creating bubbles of groups I and II or the bubble generator of group III. For example, the bubble generator of group VII does not contain a controller, fluid verification device, spinning discs, heater, nozzle, transmitter for transmitting ultrasonic energy, backflow prevention means and disposable/reusable portion to preclude flow of contaminants, etc.

8. Inventions I/II/II and VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions the bubble generator of group VIII does not contain all of the components of the systems for creating bubbles of groups I and II or the bubble generator of group III. For example, the bubble generator of group VIII does not contain

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a reservoir, controller, fluid verification device, spinning discs, heater, nozzle, transmitter for transmitting ultrasonic energy, backflow prevention means and disposable/reusable portion to preclude flow of contaminants, etc.

9. Inventions I/II/III and IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions the bubble generator of group IX does not contain all of the components of the systems for creating bubbles of groups I and II or the bubble generator of group III. For example, the bubble generator of group IX does not contain a reservoir, controller, fluid verification device, spinning discs, heater, nozzle, transmitter for transmitting ultrasonic energy, backflow prevention means and disposable/reusable portion to preclude flow of contaminants, etc.

10. Inventions I/II/III and X are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions the bubble generator of group X does not contain all of the components of the systems for creating bubbles of groups I and II or the bubble generator of group III. For example, the bubble generator of group X does not contain a reservoir, controller, fluid verification device, spinning discs, heater, nozzle, transmitter for transmitting ultrasonic energy, backflow prevention means and disposable/reusable portion to preclude flow of contaminants, etc.

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11. Inventions I/II/III and XI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions the bubble generator of group XI does not contain all of the components of the systems for creating bubbles of groups I and II or the bubble generator of group III. For example, the bubble generator of group XI does not contain a reservoir, fluid verification device, spinning discs, nozzle, transmitter for transmitting ultrasonic energy, backflow prevention means and disposable/reusable portion to preclude flow of contaminants, etc. Also, the bubble generator of group XI also contains a imaging unit to provide feedback which the invention of group I/II/III do not contain.

12. Inventions IV,V,VI,VII,VIII,IX,X and XI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are the bubble generator of group IV which comprises a nucleation material and a nozzle, the bubble generator of group V which comprises an liquid enclosure, agitating means, control, filter, spinning discs, stirring element and transmitter for transmitting ultrasonic energy, the bubble generator of group VI which comprises liquid/gas flow paths and an array of gas-liquid interface assemblies, the bubble generator of group VII which comprises an introduction plates and a flow path, the bubble generator of group VIII which comprises a tube having a plurality of gas inlets and a chamber for defining a liquid flow path, the bubble generator of group IX which comprises two plates and a means for generating droplets of liquid,

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the bubble generator of group X which comprises a housing having a cell chambers and a flow path and the bubble generator of group XI which comprises a plate and a heater. The bubble generators of group IV,V,VI,VII,VIII,IX,X and XI do not contain the same components.

13. Inventions XII and I/II/III/IV/V/VI/VII/VIII/IX/X/XI are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the method of generating a medium of bubbles can be accomplished with the apparatus of groups I/II/III/IV/V/VI/VII/VIII/IX/X/XI and therefore can be practiced with materially different apparatus as they all contain different components.

14. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art due to their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include (i) an **election of an invention** to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Due to the complex nature of the instant restriction requirement, a written restriction requirement was necessitated. See MPEP § 812.01.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

15. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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16. The examiner has required restriction between product and process claims.

Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder.

All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

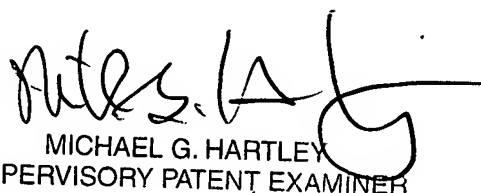
In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Perreira whose telephone number is 571-272-1354. The examiner can normally be reached on 9am-5pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MP
May 23, 2007


MICHAEL G. HARTLEY
SUPERVISORY PATENT EXAMINER